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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|------------------------------|------------------------|
| 10/543,090 | 07/22/2005 | Eng-Chye Teoh | 030285-0316928 | 5639 |
| 909 7590 06/12/2007 PILLSBURY WINTHROP SHAW PITTMAN, LLP P.O. BOX 10500 MCLEAN, VA 22102 | | | EXAMINER ALLEN, CAMERON J | |
| | | | ART UNIT 1709 | PAPER NUMBER |
| | | | MAIL DATE 06/12/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/543,090 | TEOH, ENG-CHYE | |
| | Examiner | Art Unit | |
| | Cameron J. Allen | 1709 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-11, 13-15 and 17 is/are rejected.
- 7) ☒ Claim(s) 9, 11, 12, 15, 16 and 18-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>12/22/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Beaumont (US 4,066,550).

Regarding claim 9, Beaumont teaches a method of removing organic nitrogen from an aqueous liquid, said method comprising adding a nitrosonium ion generator into said aqueous liquid (column 13, lines 42-43) to remove nitrogen from organic-based nitrogen contaminates, such as amines, amides, ureas and amino acids (Column 4, line 37), at a controlled temperature (Column 16 lines 9-12).

Regarding claim 10, Beaumont teaches wherein the nitrosonium ion is a nitrosonium ion is a nitrous acid or a nitrite in an acidic media (column 13, lines 42-43).

Regarding claim 11, Beaumont teaches the temperature is between 0 to 100 degree. Preferably between 20 and 40 degree C (Column 12, line 5).

Regarding claim 12, Beaumont teaches the temperature is between 0 to 100 degree. Preferably between 20 and 40 degree C (Column 12, line 55).

3. Claims 13-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Peter et al (US 5,356,539).

Regarding claim 13, Peter teaches a method for removing organic and inorganic contaminants from an aqueous liquid, said method includes the step of adding a peroxide in the presence of suitable catalyst(s) at controlled pH to oxidize and remove other organic and inorganic contaminants wherein the catalyst(s) is used as particulate(s) in a fixed bed reactor or moving bed reactor caused by the motion of fluid or gases, or by mechanical means through which the aqueous liquid to be treated comes in continuous contact in the presence of the peroxide (Abstract).

Regarding claim 14, Peter teaches a method as claimed in 13, wherein the peroxide is hydrogen peroxide (Column 2, Line 38).

Regarding claim 15, Peter teaches the addition of hydrogen peroxide can be before the catalyst (column 2, line 35-39)

Regarding claim 16, a method in claim 14, wherein the addition of peroxide can be before or together with the catalyst (Column 2 line 38-40)

Regarding claim 17, Peter teaches a method as in claim 13 wherein the pH range is selected from 2 to 12 (Column 2, line 39 and column 4, line 56).

Regarding claim 18, a method as claimed in claim 14, wherein a pH range is selected from 2 to 12 (Column 2, line 39 and column 4, line 56).

Regarding claim 19, a method as claimed in claim 15, wherein a pH range is selected from 2 to 12 (Column 2, line 39 and column 4, line 56).

Regarding claim 20, a method as claimed in claim 16, wherein a pH range is selected from 2 to 12 (Column 2, line 39 and column 4, line 56).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. It is unclear to the examiner what the pH refers to. It is not obvious if it is related to the feed, the peroxide, the mixture before the catalyst, the mixture after the catalyst, or any combination thereof. The examiner interprets the pH to refer to the feed before the catalyst and addition of the peroxide.
6. Regarding claims 9,11,12, the phrase "such as" or preferably renders the claims indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
7. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a

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question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 11 and 12 recite the broad recitation 0-100 degree C, and the claim also recites 20-40 degree C, which is the narrower statement of the range/limitation.

Claim Objections

8. Claim 15 objected to because of the following informalities: Claim 15 recites the limitation "hydrogen peroxide" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stepaniuk US 4,918,168.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cameron J. Allen whose telephone number is 571-2703164. The examiner can normally be reached on Mon-Fri 8-5 alternate Fri off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CJA


WALTER D. GRIFFIN
SUPERVISORY PATENT EXAMINER